

WHAT IS CLAIMED IS:

1. A storage controller for controlling transfer of  
input/output data to and from a lower level external  
5 apparatus in response to input/output requests received  
from a higher level external apparatus, said storage  
controller comprising:

at least one external interface controller for  
receiving said input/output requests from said higher  
10 level external apparatus in accordance with a type of  
interface with said higher level external apparatus;

at least one control processor which processes said  
input/output requests, and

a fibre channel interface loop interposed between  
15 said external interface controller and said control  
processor so as to serve as a channel through which  
information is transferred therebetween.

2. A storage controller according to claim 1,  
20 wherein the interface of said external interface  
controller interfacing to said higher level external  
entity is a fibre channel interface.

3. A storage controller according to claim 1,

4. A storage controller according to claim 1, wherein said fibre channel interface loop has an electronic switching facility which acts as a channel between said external interface controller and said control processor in response to an input signal.

at least one external interface controller for receiving said input/output requests from said higher level external apparatus in accordance with a type of interface with said higher level external apparatus;

a loop of fibre channel interface interposed between  
said external interface controller and said control  
processor so as to serve as a channel through which

6. A storage controller for controlling transfer of input/output data to and from a lower level external apparatus in response to input/output requests received from a higher level external apparatus, said storage controller comprising:

a plurality of control processors which process said input/output requests; and

wherein each of said control processors comprises:

20 input/output requests sent through said loop; and

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~~7.~~ A storage controller for controlling transfer of

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a plurality of control processors which process said  
input/output requests;

storing means which is accessed in common by said control processors and which stores a logical unit number which the input/output requests are assigned to, and to be processed by said control processors;

monitoring means for monitoring operating status of  
the other control processors; and

takeover means which, if a stopped state of any other control processor is detected, updates said logical unit numbers in said storing means so that the control processor in question may take over the processing of the

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input/output requests;

a loop of fibre channel interface interposed between

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said external interface controllers on one hand and said control processors on the other hand so as to serve as a channel through which information is transferred therebetween; and

5 storing means which is accessed in common by said control processors and which stores logical unit numbers of the input/output requests to be processed by said control processors;

wherein each of said control processors comprises:

10 counting means for counting the number of processed input/output requests;

notifying means for notifying the other control processors of the counted number of processed input/output requests;

15 acquiring means for acquiring the number of processed input/output requests from the other control processors; and

updating means for updating said logical unit numbers in said storing means so as to average the counts  
20 of processed input/output requests between said control processors.

~~10~~ A storage subsystem for controlling transfer of input/output data to and from lower level storage medium

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drives in response to input/output requests received from higher level host computers, said storage controller comprising:

5 at least one external interface controller with an interface for receiving said input/output requests from any one of said higher level host computers in accordance with a type of interface with the higher level host computer in question;

a cache memory for temporarily storing data;

10 at least one higher level control processor which analyzes said input/output requests and which controls accordingly transfer of input/output data between said host computers on one hand and said cache memory on the other hand;

15 a loop of fibre channel interface interposed between said external interface controller and said higher level control processor so as to serve as a channel through which information is transferred therebetween;

20 at least one lower level control processor which controls transfer of input/output data between said cache memory on one hand and said storage medium drives on the other hand; and

a drive interface controller which is interposed between said lower level control processor on one hand and

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said storage medium drives on the other hand and which permits transfer of input/output data to and from said storage medium drives in accordance with a type of interface with the lower level drive being used.

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